Third United Nations International Conference on the Peaceful Uses of Atomic Energy

A/CONF.28/A/344
USSR
February 1964
Original: RUSSIAN

Confidential until official release during Conference

Abstract

EXTRACTION PROCESSING OF THE IRRADIATED FUELS BY USING THE SOLUTION OF TRIBUTYLPHOSPHATE IN CARBON TETRACHLORIDE

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The subject of this report is the pilot-plant processing of the solutions of irradiated fuel elements from the power reactors by using 1,1 M TBP solution in CCl_4. The reasons for choice of the flowsheet and the operation order are explained. The flowsheet consists of one circuit for simultaneous extraction of uranium, plutonium and neptunium, two uranium and two plutonium circuits, one neptunium circuit, the processing for aqueous raffinate solutions and the extractant regeneration. While working out the process, much attention was given to recycling solutions. The decontamination factors for fission products limiting the extraction process (Zr,Ru,R.E.) are given by the processing stages.

Translation provided by courtesy of the submitting Government